REMARKS

Claims 1-4 and 6-7 are pending in the application. Claim 1 has been amended to more clearly set forth the present invention. No new matter has been added. In view of the foregoing amendment and following remarks, favorable reconsideration of this case is respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-4 and 6-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim (WO 03/055888) in view of Pun (US 2003/0008818). Applicants respectfully traverse this rejection for reasons that follow.

The Patent Office apparently was not persuaded by the applicants' arguments filed on November 13, 2007 that Kim is completely silent as forming nanoparticles by the aggregation of a plurality of such cucurbituril derivatives, in view of the Patent Office's contention that Kim discloses hydroxy cucurbituril derivatives that can be used as a substitute for cyclodextrin, have cavities having a diameter of 4 to 15 angstroms (1.5 nm), which are able to include various compounds and derivatives therein. However, such disclosure of Kim does not teach that nanoparticles can be prepared by the aggregation of cucurbituril derivatives, but just that a single hydroxy cucurbituril derivative is a compound which is able to form an inclusion complex by acting as a host molecule like a cyclodextrin.

Kim teaches cucurbituril derivatives as monomeric units. The nanoparticles recited in claim 1 of the present application are oligomers prepared by the aggregation of at least several Kim cucurbituril monomers. The nanoparticles are spherical particles which are formed by aggregation of at least several cucurbituril derivatives and in which the inner part is hydrophobic. Such nanoparticles can encapsulate a hydrophobic drug, when the hydrophobic drug is added at the time of preparation of the nanoparticles.

Claims 1-4 and 6-7 recite nanoparticles prepared by the aggregation of cucurbituril derivatives of Formula 1 optionally together with a biodegradable polymer such as PEG, PLGA, or the like, and a pharmaceutical composition in

which a pharmaceutically active substance as a guest molecule is loaded into said nanoparticles. In other words, the present application claims a nanoparticle composed of at least several cucurbituril derivatives, in which at least several cucurbituril derivatives are aggregated to form a nanoparticle.

On the other hand, Kim discloses that hydroxylcucurbituril and their derivatives can have various different sizes, and have Lewis base atoms near cavities of the molecules. Further, Kim discloses that hydroxylcucurbituril, a molecule itself, can form a complex with various organic compounds. Kim does not teach that at least several monomeric cucurbituril derivatives can be aggregated to form a nanoparticle into which a pharmaceutically active substance can be loaded (encapsulated).

It should be technically explicitly distinguished that a monomeric molecule itself can form a complex with various organic compounds as disclosed by Kim, and that at least several monomeric molecules can be aggregated to form a nanoparticle into which a pharmaceutically active substance as a guest molecule can be loaded (encapsulated).

Thus, Kim does not disclose or suggest that the cucurbituril derivatives can be aggregated to form a nanoparticle, into which a pharmaceutically active substance as a guest molecule can be loaded (encapsulated).

Pun completely fails to supply the missing teaching. The Patent Office cites Pun as disclosing a composition comprising a particulate composite of polymer and a therapeutic agent and an inclusion complex of said polymer and a complexing agent, in which said polymer or said complexing agent has host functionality. The host functionality is selected from the group consisting of cyclodextrin, crown ethers, cucurbituril monomers and the like. Thus, Pun discloses that a cucurbituril monomer can be used as a host functionality in order to form a host-guest inclusion complex between a polymer and a complexing agent to form a particulate composite together with a polymer, but does not disclose that at least several monomeric cucurbituril derivatives are aggregated to form a nanoparticle with a polymer. Thus, Pun does not disclose or suggest that monomeric cucurbituril derivatives can be aggregated to form a nanoparticle,

into which a pharmaceutically active substance as a guest molecule can be loaded.

In view of the foregoing, the Kim and Pun references, taken either as a whole or severally, fail to teach an oligomeric nanoparticle formed by aggregating a plurality of curcurbituril monomers, claims 1-4, and 6-7 of the present application are not deemed to be obvious. Therefore, the applicants respectfully request the withdrawal of the rejections under 35 U.S.C. § 103.

Conclusion:

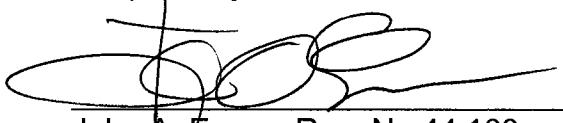
In view of the above, re-consideration and allowance are respectfully solicited.

Accordingly, it is respectfully requested that the foregoing amendments be entered, that the application as so amended receive an examination on the merits, and that the claims as now presented receive an early allowance.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Commissioner is hereby authorized to charge any fees or credit any overpayment associated with this communication, including any extension fees or fees for the net addition of claims, to Deposit Account No. 02-2135.

Respectfully submitted,



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